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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,402	12/07/2004	Christopher J. Criscuolo	2832 (203-3308)	4034

7590 07/12/2007
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EXAMINER

GETTMAN, CHRISTINA DANIELLE

ART UNIT	PAPER NUMBER
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3734

MAIL DATE	DELIVERY MODE
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07/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/517,402

Applicant(s)

CRISCUOLO ET AL.

Examiner

Christina D. Gettman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21,23-28 and 32-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21,23-28 and 32-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Acknowledgement is made of receipt of RCE request filed February 28, 2007, and acceptance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

102(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **21, 23-24, 27, and 32-39** are rejected under 35 U.S.C. 102(b) as being anticipated by **Augagneur et al.** (U.S. Patent No. 6,001,101). Augagneur et al. disclose the invention as claimed including a surgical tack with a head (ref. 2, Fig. 1) having a drive thread (ref. 20, Fig. 1), a barrel portion (ref. 1, Fig. 1) with a tissue engaging thread (ref. 10, Fig. 1), a portion of the drive thread and a portion of the tissue engaging thread defining a gap therebetween (ref. 3, Fig. 1), a throughbore extending through the head and part of the barrel portion (ref. 30, Fig. 2), the gap defining a transition zone between the two threads, a leading edge of the drive thread being tapered (see ref. 23, Fig. 1), the maximum diameter of the drive thread being greater than the maximum diameter of the tissue engaging thread (col. 2, line 47-48), the barrel portion including a smooth or rounded leading edge (see the bottom most portion of ref. 1, Fig. 1), the head being configured to facilitate removal of the tack (see ref. 30, Fig. 2; the bore aids in putting the screw into the body and removing it from the body, just as a normal screw head would act), the two threads having substantially the same pitch (see ref. 10 and 20, Fig.

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1), and the leading edge of the drive thread and the trailing edge of the tissue engaging thread being in a common plane (see Fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim **26** is rejected under 35 U.S.C. **103(a)** as being unpatentable over **Augagneur et al.** in view of **Huebner (U.S. Patent No. 6,030,162)**. Augagneur et al. does not disclose a chamfered leading edge of the drive thread. Huebner does not appear to expressly disclose a chamfered drive thread on the head portion 26. However, Huebner does disclose a chamfer 80 on the leading section 24 (See Huebner figure 2; Huebner, col. 4, 63-65). Huebner also discloses, "[the] termination zone 80 [or chamfered portion] could be used on any of the screws described herein." Huebner, col. 5, lines 6-7. This implies that the chamfered portion can be used on the trailing head portion 26. It would be obvious to apply a chamfered portion on the head portion of Augagneur et al. so as to allow for smooth rotation through and insertion into shaft 146.

Claims **25** and **28** are rejected under 35 U.S.C. **103(a)** as being unpatentable over **Augagneur et al.**, as applied to claim **21** above, in view of **Muhling (U.S. Patent No. 5,169,400)**. Augagneur et al. discloses a throughbore but not a throughbore that has a D-shaped cross-section. Muhling claims in claim 1 "a bone screw . . . comprising

an externally threaded shaft in which a tool insertion channel [or throughbore] open at the top . . . the cross-section of said insertion channel being non-circular and corresponding to the cross-section of a tool used for screwing-in said screw . . .” Muhling, claim 1. Muhling’s figures 2-5 disclose a number of different throughbore shapes. The point of Muhling’s invention is to better allow torque to be applied by the insertion tool to the screw. A D-shaped throughbore is considered within the scope of Muhling’s invention, due to the following language in claim 1, “the cross-section of said insertion channel being non-circular and corresponding to the cross-section of a tool used for screwing-in said screw.” Id. It would be obvious to combine Muhling with Augagneur et al. because they involve the same field of endeavor and modifying the through-bore to be D-shaped would better allow torque to be applied to the screw, as explained by Muhling.

Conclusion

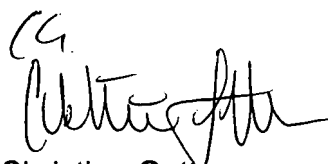
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pennig (U.S. Patent No. 5,536,127) discloses a screw with a head portion with a head thread and a barrel portion with an engagement thread. Pennig also discloses a gap between the head thread and the engagement thread.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina D. Gettman whose telephone number is 571-272-3128. The examiner can normally be reached on Monday-Friday 7:15 am to 3:45 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hayes can be reached on 571-272-4959. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Art Unit 3734
571-272-3128



MICHAEL J. HAYES
SUPERVISORY PATENT EXAMINER